

1996-2000
U.S. Fish and Wildlife Service
Procurement Package

Precision Lightweight GPS Receiver (PLGR)
(Formerly USDA Contract No. 54-7482-6-141)

Contract Date: May 31, 1996
Contract Modification Date: May 31, 1997
Contract Expiration Date: July 1, 1998

February 2000

Agency
U.S. Fish and Wildlife Service

Agency GPS-PPS Coordinator
Michael J. Long

BACKGROUND:

The USDA - Natural Resources Conservation Service (NRCS), National Business Support Center facilitated the solicitation, offer and award of an Indefinite Delivery, Indefinite Quantity contract for the procurement of Precision Lightweight GPS Receivers (PLGR's) from Rockwell Collins. This procurement is open to those Federal Agencies that are authorized by the Department of Defense to purchase GPS receivers capable, through encryption, of accessing the Precise Positioning Service (PPS) of the NAVSTAR Global Positioning System (GPS). The USDA contract expired as of July 1, 1998. **However, effective February 2000 Rockwell Collins is now offering the PLGR according to the new U.S. Government price guide.**

The purchase of the Precision Lightweight GPS Receivers is authorized pursuant to Memorandum of Understanding between the Department of Defense and the Department of the Interior, dated August 26, 1994, and September 14, 1994. The satellite-based GPS, which is developed and operated by the Department of Defense (DOD), provides two levels of positioning accuracy: the Standard Positioning Service and the Precise Positioning Service. To purchase, use, and be a custodian of PLGR equipment the purchaser must be cognizant of the following:

SECURITY NOTICE

- o THE USE OF THIS RECEIVER IS AUTHORIZED BY MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF DEFENSE AND THE DEPARTMENT OF THE INTERIOR ("ACCESS TO AND USE OF THE GLOBAL POSITIONING SYSTEM PRECISE POSITIONING SERVICE," DATED SEPTEMBER 14, 1994). THE CONTINUED USE OF THIS RECEIVER AND THE PRECISE POSITIONING SERVICE IS AT THE SOLE DISCRETION OF THE ASSISTANT SECRETARY OF DEFENSE FOR COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE.
- o PURSUANT TO THE MOU, THE FEDERAL RADIONAVIGATION PLAN, AND CURRENT GUIDANCE FROM THE NATIONAL SECURITY AGENCY AND THE DEPARTMENT OF DEFENSE (DOD) SPACE COMMAND, **THE USE OF PRECISE POSITIONING SERVICE (PPS) RECEIVERS IS GENERALLY LIMITED TO PERMANENT OR TEMPORARY FEDERAL EMPLOYEES, WHO ARE U.S. CITIZENS.** THE USE OF PPS RECEIVERS IS GENERALLY NOT ALLOWED FOR NON-FEDERAL EMPLOYEES. NON-FEDERAL EMPLOYEES INCLUDE, BUT IS NOT LIMITED TO, VOLUNTEERS, COOPERATORS, UNIVERSITIES, CONTRACTORS, NON-FEDERAL RESEARCHERS, INTERNS, STATE GOVERNMENT EMPLOYEES, VENDORS, FOREIGN NATIONALS, AND TRIBAL MEMBERS WHO ARE NOT AUTHORIZED FEDERAL EMPLOYEES. **EFFECTIVE FEBRUARY 17, 1998 THE USE OF PPS RECEIVERS BY OTHER THAN A FEDERAL EMPLOYEE CAN BE AUTHORIZED BY THE AGENCY GPS-PPS COORDINATOR UPON PROPER APPLICATION BY THE PLGR CUSTODIAN. CONTACT THE AGENCY GPS-PPS COORDINATOR FOR THE NON-FEDERAL USE APPLICATION. THE USE OF PPS RECEIVERS BY OTHER THAN A FEDERAL EMPLOYEE, WITHOUT PROPER APPROVAL, IS CONSIDERED A PRACTICE DETRIMENTAL TO NATIONAL SECURITY.**
- o THE INTERNAL SECURITY MODULE AND CRYPTOGRAPHIC KEYS REMAIN THE PROPERTY OF THE NATIONAL SECURITY AGENCY. AS SUCH, PPS RECEIVERS MUST BE RETURNED TO THE AGENCY GPS-PPS COORDINATOR IN A TIMELY MANNER, UPON DEMAND. REQUESTS FOR RETURN OF EQUIPMENT MAY ALSO COME FROM THE DOI GPS-PPS COORDINATOR, THE FEDERAL GPS-PPS COORDINATOR OR THE CONTROLLING AUTHORITY AT SPACE COMMAND. HOWEVER, YOU SHOULD NEVER SURRENDER ANY PPS RECEIVER WITHOUT FIRST CHECKING WITH THE AGENCY GPS-PPS COORDINATOR.

- o THIS PPS RECEIVER IS CONSIDERED UNCLASSIFIED BY THE DOD. HOWEVER, THE RECEIVER CONTAINS CRYPTOGRAPHIC LOGIC WHICH MAKES THE RECEIVER A DOD "HIGH VALUE ITEM." AS SUCH, ANY LOSS, THEFT, TAMPERING, OR DESTRUCTION OF A RECEIVER MUST BE REPORTED BY THE CUSTODIAN TO THE AGENCY GPS-PPS COORDINATOR IMMEDIATELY. SERIOUS INFRACTIONS WHICH MAY CONSTITUTE SABOTAGE, LOSS THROUGH NEGLIGENCE, THEFT, OR ESPIONAGE ARE PUNISHABLE UNDER VARIOUS SECTIONS OF THE UNITED STATES CODE.
- o THE CUSTODIAN IS RESPONSIBLE FOR ALL PROPERTY ACCOUNTING, INCLUDING PROMPT RESPONSE TO THE ANNUAL INVENTORY BY THE FEDERAL GPS-PPS COORDINATOR. THIS RECEIVER CANNOT BE PROCESSED AS EXCESS PROPERTY. THIS RECEIVER MUST BE RETURNED TO THE AGENCY GPS-PPS COORDINATOR FOR PROPER DISPOSAL.
- o WHEN NOT IN USE, PPS RECEIVERS SHOULD BE KEPT IN A SECURE LOCATION SUCH AS A LOCKED DRAWER, CABINET, OR STORAGE SPACE. RECEIVERS SHOULD NEVER BE STORED IN VEHICLES.
- o SHIPPING OF PPS RECEIVERS WILL BE BY FEDERAL EXPRESS. SHIPPING BY OTHER CARRIERS OR BY THE POSTAL SERVICE MUST BE APPROVED BY THE AGENCY GPS-PPS COORDINATOR, IN ADVANCE.
- o **PPS EQUIPMENT CAN NOT BE SHIPPED OR HAND-CARRIED OUTSIDE OF THE UNITED STATES (ENCRYPTED OR NOT ENCRYPTED), WITHOUT PRIOR APPROVAL FROM THE CONTROLLING AUTHORITY AT DOD.** OUTSIDE OF THE UNITED STATES IS CONSIDERED TO BE ANY OTHER PLACE BESIDES THE CONTERMINOUS UNITED STATES, ALASKA, HAWAII, AND PUERTO RICO. THE AGENCY GPS-PPS COORDINATOR MUST BE CONTACTED PRIOR TO ANY SHIPPING OR CARRYING OF PPS RECEIVERS OUTSIDE OF THE UNITED STATES, AS DEFINED.
- o PROCUREMENT OF PLGR UNITS MUST BE AUTHORIZED BY THE AGENCY GPS-PPS COORDINATOR. **THE AGENCY GPS-PPS COORDINATOR MUST BE NOTIFIED PRIOR TO ANY ORDERS BEING PLACED BY THE REGIONAL CONTRACTING OFFICES OR OTHER AUTHORIZED PURCHASING AGENTS.** THE AGENCY GPS-PPS COORDINATOR WILL THEN REQUEST THE DOI VALIDATING AUTHORITY TO OBTAIN THE NECESSARY APPROVALS FROM THE DOD, JOINT PROGRAMS OFFICE FOR THE RELEASE OF THE REQUIRED NUMBER OF PLGR CRYPTOGRAPHIC SECURITY MODULES. THE PREFERRED METHOD OF PROCUREMENT IS THROUGH THE USE OF GOVERNMENT MASTERCARD.

PROCESS & TIME LINE:

July 1, 1996:

The ordering window opened for 1996-2000 procurement.

Submission of MasterCard Orders (See Ordering Procedures):

Submit MasterCard orders directly to Rockwell Collins. The procuring office must first send a message to the Agency GPS-PPS Coordinator (Mike_Long@fws.gov) that lists the following:

1. PLGR Custodian Name
2. PLGR Custodian Office
3. PLGR Custodian Telephone Number
4. PLGR Custodian Fax Number
5. FEDEX mailing address (No P.O. Boxes).
6. Number of PLGR units being purchased.
7. Name of Purchasing Officer (ie., name of MasterCard card holder)
8. Major organizational unit (Refuges, Fisheries, Ecological Services, etc.)

Rockwell Point of Contact

All MasterCard orders should be coordinated with Mindy Ewing, Contracting Officer, Rockwell Collins at (319) 295-3544.

Delivery of Equipment:

All PLGR receivers will be delivered by Rockwell Collins to the USDI Denver GPS-PPS Cooperative Center, located at the Denver Federal Center. All other PLGR peripherals will be delivered directly to the PLGR Custodian at the express mail address listed in the email message to the Agency GPS-PPS Coordinator and given to Rockwell Collins. Delivery is normally within 30 days of the date on the DOD-JPO approval for release of the security modules.

Field Delivery of PLGR Units:

Encryption service will start immediately and the equipment will be delivered to the requesting offices ASAP.

EQUIPMENT AVAILABLE:

Since October 1, 1994, when the PLGR became available to Federal agencies, the product has evolved considerably. This development is in direct response to additional requirements and capabilities requested by current Federal custodians of PLGR equipment. The former Indefinite Delivery, Indefinite Quantity contract included numerous enhancements that are described herein. Rockwell has recently released the February 2000 U.S. Government Price Guide.

Minimum Configuration

The following is the minimum configuration for the U.S. Fish and Wildlife Service:

822-0077-103	: PLGR Receiver (PPS)	\$2000.00
	PLGR Receiver includes the following:	
	Baseline 4 PLGR	
	PLGR+96 Federal Version Internal Software	
	Internal Security Module PPS-SM	
	Warranty (3 year from date of Rockwell shipment)	
	Encryption Service	
021-0706-010	: Personnel Case	\$30.00
221-0500-020	: Memory Battery	\$8.00
426-0141-010	: PLGR-PC Interface Cable (3.1 Meters)	\$75.00
221-0135-020	: Primary Battery-AA Battery Holder	\$19.00
988-2163-001	: Power Adapter-Cigarette Lighter with Screw Lock Connector	\$26.00
COM218-0325-02	: Power Adapter AC/DC	\$30.00
TOTAL COST		\$2313.00

SPARE ACCESSORIES

Spares accessories can be purchased directly from Rockwell Collins. Contact Mindy Ewing, Rockwell Collins, at (319) 295-3544.

221-0135-020	: Primary Battery - AA Battery Holder	\$ 19.00
013-1925-040	: Magnetic Mount Antenna (SMA Connector)	\$ 188.00
426-0141-050	: Remote Antenna Cable (5 Meters SMA Connector)	\$ 75.00
426-0141-120	: Remote Antenna Cable (10 Meters SMA Connector)	\$ 75.00
021-0706-010	: Personnel Case	\$ 30.00
426-0141-010	: PLGR-PC Interface Cable (3.1 Meters)	\$ 75.00
426-1041-020	: PLGR-PLGR Interface Cable (1.1 Meters)	\$ 41.00
988-2163-001	: Power Adapter - Cigarette Lighter with Screw Lock Connector	\$ 26.00
COM218-0325-02	: Power Adapter - AC/DC	\$ 30.00
013-1934-010	: Airborne Antenna (TNC - TSO Approved)	\$ 281.00
426-0141-080	: Remote Antenna Cable (5 Meters TNC Connector)	\$ 75.00
426-0141-130	: Remote Antenna Cable (10 Meters TNC Connector)	\$ 75.00
013-1925-070	: Helmet Antenna (includes 1.5 Meter Cable)	\$ 184.00
013-1928-010	: Helmet Antenna Mount	\$ 27.00
426-0144-010	: Vehicle External Power Cable (5 Meters)	\$ 75.00
986-0645-001	: Vehicle Installation Mount	\$ 38.00

SOFTWARE OPTIONS:

DOS Mission Planning Software (DOS MPS+)	\$ 263.00
Keyboard Menu Definition Editor (KMDE)	\$ 75.00
TrackPlan Mission Planning Software	\$ 200.00

- DOS Mission Planning Software is required for uploading and downloading specific mission data and waypoints.
- Keyboard Menu Definition Editor allows a PLGR Custodian to decrease the number of menus on a PLGR and effectively reduce the unit's complexity.
- TrackPlan Mission Planning Software from Wellston Technology is more thoroughly described on the ordering page. Must be ordered directly from Wellston Technology and not from Rockwell.

KEYBOARD MENU DEFINITION EDITOR (KMDE™)

Through the Microsoft Windows application called the Rockwell KMDE™, the user can selectively remove display pages from the receiver, effectively reducing the unit's complexity. This is optional software and is not required for operation of the PLGR.

DOS MISSION PLANNING SOFTWARE

Through the DOS Mission Planning Software the user can upload and download data files that relate to waypoints, navigation routes, almanacs, setup configurations, satellite vehicles, and datum definitions. The DOS Mission Planning Software also provides an alternate method for output of waypoint data in ASCII format. **This software is for those users that need to electronically store, transfer, and retrieve PLGR data files.** See note on ordering page about TrackPlan Mission Planning Software from Wellston Technology (Windows based third-party alternative to Rockwell DOS MPS+).

PLGR+96 FEATURE DESCRIPTIONS:

PLGR+96 - FEDERAL VERSION

SDGPS

Secure Direct Differential capability using broadcast correctables to achieve 1-2 meter horizontal positioning. This means your PLGR is able to receive Coast Guard or other Commercial broadcast correctables via the Radio Technical Commission Maritime (RTCM) SC-104 Version 2.1 protocol, while tracking satellites and using the P/Y Code. This is done without switching to SPS or canceling the encryption. The 1-2 meter capability is real-time without the need for post-processing. SDGPS requires the use of a Coast Guard Beacon radio receiver or a radio receiver and an annual service charge from a private vendor.

WAGE

The Wide Area GPS Enhancement (WAGE) reduces system errors to achieve less than 4 meters horizontal positioning. WAGE provides position error estimates to indicate the quality of the position data. The typical 4 meters is obtained autonomously in real-time without the need for broadcast correctables or post-processing.

ADDS

The Accurate Distance and Direction System (ADDS) provides a mode for establishing relatively accurate azimuths and distances along baselines. The same technique can be used to determine elevation differences, thus relatively accurate elevation angles and distances between two points.

AREA CALCULATION

This function computes an area estimate based upon a series of waypoints defining an enclosed polygon.

REMOTE POSITIONING

By attaching a handheld laser range finder, the PLGR+96 provides an easy and accurate way of measuring remote positions.

AUTOMARK

Automatic waypoint marking as fast as once per second.

ASCII OUTPUT

Direct download of ASCII waypoint information to relational databases or to a Geographic Information System. Direct download of waypoint information into an ASCII file is done in conjunction with a communications program such as the Microsoft Windows HyperTerminal program.

NMEA-0183 INTERFACE

Allows for interfacing with hardware and software products that support the National Marine Electronics Association (NMEA) standard. NMEA-0183 defines the electrical interface and data protocol for communications between marine instrumentation.

HOT KEY

Hot keys eliminate the need for multiple keystrokes. Common navigation operations can now be executed by the press of a button.

1995 MAGVAR

Updated magnetic variation model reflecting actual field measurements.

ORDERING PROCEDURE - FWS

1. Email Notification

Prior to calling Rockwell Collins, send an email message to Michael J. Long, the Agency GPS-PPS Coordinator (see item 3), that contains the following information about the new PLGR Custodian:

- PLGR Custodian Name
- PLGR Custodian Office
- PLGR Custodian Telephone Number
- PLGR Custodian Fax Number
- FEDEX mailing address (No P.O. Boxes)
- Number of PLGR units being purchased.
- Name of Purchasing Officer (ie., name of MasterCard card holder)
- Major organizational unit (Refuges, Fisheries, Ecological Services, etc.)

This information is used for shipping the encrypted receiver to the proper PLGR Custodian, for verifying that the new PLGR Custodian does work for the U.S. Fish and Wildlife Service, and for database tracking of all receivers and custodians.

2. Acquisition

Prepare an Acquisition Request Form (FWS Form 3-2109, if required by office policy). Fill in the acquisition request with the appropriate information. Send your acquisition request to your Regional contracting office for processing (or other proper purchasing agent with adequate warrant authority). **The preferred method of procurement is by government MasterCard.**

Sole Source Mandatory Vendor:

Rockwell Collins
Collins Avionics and Communications Division
350 Collins Road, NE
Cedar Rapids, IA 52498
Mindy Ewing, Contracting Officer Rockwell Collins
(319) 295-3544

3. Agency GPS-PPS Coordinator Address Listings:

Regular Mail

Michael J. Long
Agency GPS-PPS Coordinator
P.O. Box 25207 (Room 351)
Denver, CO 80225-0207

Express Mail

Michael J. Long
Agency GPS-PPS Coordinator
755 Parfet (Room 351)
Lakewood, CO 80215

Telephone: (303) 275-2367
Telephone: (303) 236-8145 Ext. 620
FAX: (303) 275-2417
EMAIL: Mike_Long@FWS.GOV

4. Questions

If your contracting office or purchasing agent has any questions they may contact the following individuals:

Michael J. Long, Agency GPS-PPS Coordinator
(303) 275-2367
(303) 236-8145 Ext. 620

Dave House, Rockwell Collins Contracting Officer
(319) 295-3122

Mindy Ewing, Rockwell Collins Contracting Officer
(319) 295-3544

All Region 2 FWS personnel should direct their questions to:

Eric Riester, Regional GPS-PPS Coordinator
(505) 248-6851

All Region 3 FWS personnel should direct their questions to:

Mary S. Mitchell, Regional GPS-PPS Coordinator
(612) 713-5443

5. Additional Software

All offices placing PLGR orders should make a decision on software. This software is not required at the time of procurement of the PLGR, but at least one will be needed for any batch uploading of datasets. The following give a few helpful notes.

KMDE™

The Keyboard Menu Definition Editor is optional. It is useful for minimizing the complexity of the PLGR display screens. It is useful for standardizing the PLGR display screens to meet specific needs. Only one copy needed per office.

DOS Mission Planning Software

Required for saving of mission critical data. Required for uploading waypoint and route data.* Only one copy needed per office.

* Note: A similar product called TrackPlan MPS V96 is available directly from Wellston Technology. TrackPlan runs in Windows and Costs \$200.00 plus shipping. TrackPlan should be ordered directly from Wellston.

Wellston Technology
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Warner Robins, GA 31088
(912) 953-1907
<http://www.wellston.com>